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ADDRESS
TO THE
SECTION OF ANTHROPOLOGY
OF THE
BRITISH ASSOCIATION.

BY
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PRESIDENT OF THE SECTION.

OUR newly-constituted Section of Anthropology, now promoted from the lower rank of a Department of Biology, holds its first meeting under remarkable circumstances. Here in America one of the great problems of race and civilisation comes into closer view than in Europe. In England anthropologists infer from stone arrow-heads and hatchet-blades, laid up in burial-mounds or scattered over the sites of vanished villages, that Stone Age tribes once dwelt in the land; but what they were like in feature and complexion, what languages they spoke, what social laws and religion they lived under, are questions where speculation has but little guidance from fact. It is very different when under our feet in Montreal are found relics of a people who formerly dwelt here, Stone Age people, as their implements show, though not unskilled in barbaric arts, as is seen by the ornamentation of their earthen pots and tobacco-pipes, made familiar by the publications of Principal Dawson. As we all know, the record of Jacques Cartier, published in the sixteenth century collection of Ramusio, proves by text and drawing that here stood the famous palisaded town of Hochelaga. Its inhabitants, as his vocabulary shows, belonged to the group of tribes whose word for 5 is *wisk*—that is to say, they were of the Iroquois stock. Much as Canada has changed since then, we can still study among the settled Iroquois the type of a race lately in the Stone Age, still trace remnants and records of their peculiar social institutions, and still hear spoken their language of strange vocabulary and unfamiliar structure. Peculiar importance is given to Canadian anthropology by the presence of such local American types of man, representatives of a stage of culture long passed away in Europe. Nor does this by any means oust from the Canadian mind the interest of the ordinary problems of European anthropology. The complex succession of races which make up the pedigree of the modern Englishman and Frenchman, where the descendants perhaps of palæolithic, and certainly of neolithic, man have blended with invading Celtic, Roman, Teutonic-Scandinavian peoples—all this is the inheritance of settlers in America as much as of their kinsfolk who have stayed in Europe. In the present scientific visit of the Old to the New World, I propose to touch on some prominent questions of anthropology with special reference to their American aspects. Inasmuch as in an introductory address the practice of the Association tends to make arguments unanswerable, it will be desirable for me to suggest rather than to dogmatise,

leaving the detailed treatment of the topics raised to come in the more specialised papers and discussions which form the current business of the Section.

The term *prehistoric*, invaluable to anthropologists since Professor Daniel Wilson introduced it more than thirty years ago, stretches back from times just outside the range of written history into the remotest ages where human remains or relics, or other more indirect evidence, justifies the opinion that man existed. Far back in these prehistoric periods, the problem of Quaternary man turns on the presence of his rude stone implements in the drift gravels and in caves, associated with the remains of what may be called for shortness the mammoth-fauna. Not to recapitulate details which have been set down in a hundred books, the point to be insisted on is how, in the experience of those who, like myself, have followed them since the time of Boucher de Perthes, the effect of a quarter of a century's research and criticism has been to give Quaternary man a more and more real position. The clumsy flint pick and its contemporary mammoth-tooth have become stock articles in museums, and every year adds new localities where palaeolithic implements are found of the types catalogued years ago by Evans, and in beds agreeing with the sections drawn years ago by Prestwich. It is generally admitted that about the close of the Glacial period savage man killed the huge maned elephants, or fled from the great lions and tigers on what was then forest-clad valley-bottom, in ages before the later waterflow had cut out the present wide valleys 50 or 100 feet or more lower, leaving the remains of the ancient drift-beds exposed high on what are now the slopes. To fix our ideas on the picture of an actual locality, we may fancy ourselves standing with Mr. Spurrell on the old sandy beach of the Thames near Crayford, 35 feet above where the river now flows two miles away in the valley. Here we are on the very workshop-floor where palaeolithic man sat chipping at the blocks of flint which had fallen out of the chalk cliff above his head. There lie the broken remains of his blocks, the flint chips he knocked off, and which can be fitted back into their places, the striking-stones with which the flaking was done; and with these the splintered bones of mammoth and tichorhine rhinoceros, possibly remains of meals. Moreover, as if to point the contrast between the rude palaeolithic man who worked these coarse blocks, and apparently never troubled himself to seek for better material, the modern visitor sees within 50 yards of the spot the bottle-shaped pits dug out in later ages by neolithic man through the soil to a depth in the chalk where a layer of good workable flint supplied him with the material for his neat flakes and trimly-chipped arrow-heads. The evidence of caverns such as those of Devonshire and Périgord, with their revelations of early European life and art, has been supplemented by many new explorations, without shaking the conclusion arrived at as to the age known as the reindeer period of the northern half of Europe, when the mammoth and cave-bear and their contemporary mammals had not yet disappeared, but the close of the Glacial period was merging into the times when in England and France savages hunted the reindeer for food as the Arctic tribes of America do still. Human remains of these early periods are still scarce and unsatisfactory for determining race-types. Among the latest finds is part of a skull from the loess, at Podbaba, near Prague, with prominent brow-ridges, though less remarkable in this way than the celebrated Neanderthal skull. It remains the prevailing opinion of anatomists that these very ancient skulls are not apt to show extreme lowness of type, but to be higher in the scale than, for instance, the Tasmanian. The evidence increases as to the wide range of palaeolithic man. He extended far into Asia, where his characteristic rude stone implements are plentifully found in the caves of Syria and the foot-hills of Madras. The question which this Section may have especial means of dealing with is whether man likewise inhabited America with the great extinct animals of the Quaternary period, if not even earlier.

Among the statements brought forward as to this subject, a few are mere fictions, while others, though entirely genuine, are surrounded with doubts, making it difficult to use them for anthropological purposes. We shall not discuss the sandalled human giants, whose footprints, 20 inches long, are declared to have been found with the foot-prints of mammoths, among whom they walked, at Carson, Nevada. There is something picturesque in the idea of a man in a past

geological period finding on the Pampas the body of a glyptodon, scooping out its flesh, setting up its carapace on the ground like a monstrous dish-cover, and digging himself a burrow to live in underneath this animal roof; but geologists have not accepted the account. Even in the case of so well-known an explorer as the late Dr. Lund, opinions are still divided as to whether his human skulls from the caves of Brazil are really contemporary with the bones of megatherium and fossil horse. One of the latest judgments has been favourable; Quatrefages not only looks upon the cave-skulls as of high antiquity, but regards their owners as representing the ancestors of the living Indians. The high and narrow dimensions of the ancient and modern skulls are given in the 'Crania Ethnica,' and whatever a similarity of proportions between them may prove, it certainly exists. Dr. Kech's celebrated flint arrow-head, recorded to have been found under the leg-bones of a mastodon in Missouri, is still to be seen, and has all the appearance of a modern Indian weapon, which raises doubt of its being really of the mastodon period. This antecedent improbability of remote geological age is felt still more strongly to attach to the stone pestles and mortars, &c., brought forward by Mr. J. D. Whitney, of the California Geological Survey, as found by miners in the gold-bearing gravels. On the one hand, these elaborate articles of stone-work are the very characteristic objects of the Indian graves of the district, and on the other the theory that the auriferous gravels capped by lava-flows are of tertiary age is absolutely denied by geologists such as M. Jules Marcou in his article on 'The Geology of California' (*Bull. Soc. Géol. de France*, 1883). It is to be hoped that the Section may have the opportunity of discussing Dr. C. C. Abbott's implements from Trenton, New Jersey. The turtle-back celts, as they are called from their flat and convex sides, are rudely chipped from pebbles of the hard argillite out of the boulder-bed, but the question is as to the position of the sand and gravel in which they are found in the bluffs high above the present Delaware River. The first opinion come to, that the makers of the implements inhabited America not merely after but during the great Ice Age, has been modified by further examination, especially by the report of Mr. H. Carvill Lewis, who considers the implement-bearing bed not to have been deposited by a river which flowed over the top of the boulder-bed, but that at a later period than this would involve, the Delaware had cut a channel through the boulder-bed, and that a subsequent glacier-flood threw down sand and gravel in this cutting at a considerable height above the existing river, burying therein the rude stone implements of an Esquimaux race then inhabiting the country. Belt, Wilson, and Putnam have written on this question, which I will not pursue further, except by pointing out that the evidence from the bluffs of the Delaware must not be taken by itself, but in connection with that from the terraces high above the James River, near Richmond, where Mr. C. M. Wallace has likewise reported the finding of rude stone instruments, to which must be added other finds from Guanajuato, Rio Juchipila, and other Mexican localities.

This leads at once into the interesting question how far any existing people are the descendants and representatives of man of the post-Glacial period. The problem whether the present Esquimaux are such a remnant of an early race is one which Professor Boyd Dawkins has long worked at, and will, I trust, bring forward with full detail in this appropriate place. Since he stated this view in his work on 'Cave-Hunting' it has continually been cited, whether by way of affirmation or denial, but always with that gain to the subject which arises from a theory based on distinct facts. May I take occasion here to mention as preliminary the question, were the natives met with by the Scandinavian seafarers of the eleventh century Esquimaux, and whereabouts on the coast were they actually found? It may be to Canadians a curious subject of contemplation how about that time of history Scandinavia stretched out its hands at once to their old and their new home. When the race of bold sea-rovers who ruled Normandy and invaded England turned their prows into the northern and western sea, they passed from Iceland to yet more inclement Greenland, and thence, according to Icelandic records, which are too consistent to be refused belief as to main facts, they sailed some way down the American coast. But where are we to look for the most

southerly points which the sagas mention as reached in Vineland? Where was Keel-ness, where Thorvald's ship ran aground, and Cross-ness, where he was buried, when he died by the skraling's arrow? Rafn, in the 'Antiquitates Americane,' confidently maps out these places about the promontory of Cape Cod, in Massachusetts, and this has been repeated since from book to book. I must plead guilty to having cited Rafn's map before now, but when with reference to the present meeting I consulted our learned editor of Scandinavian records at Oxford, Mr. Gudbrand Vigfusson, and afterwards went through the original passages in the Sagas with Mr. York Powell, I am bound to say that the voyages of the Northmen ought to be reduced to more moderate limits. It appears that they crossed from Greenland to Labrador (Helluland), and thence sailing more or less south and west, in two stretches of two days each they came to a place near where wild grapes grew, whence they called the country Vine-land. This would, therefore, seem to have been somewhere about the Gulf of St. Lawrence, and it would be an interesting object for a yachting cruise to try down from the east coast of Labrador a fair four days' sail of a viking ship, and identify, if possible, the sound between the island and the ness, the river running out of the lake into the sea, the long stretches of sand, and the other local features mentioned in the sagas. While this is in the printer's hands, I hear that a paper somewhat to this same effect may come before the Geographical Section, but the matter concerns us here as bearing on the southern limit of the Esquimaux. The *skrálings* who came on the sea in skin canoes (*huhkeipr*), and hurled their spears with slings (*vastlinga*), seem by these very facts to have been probably Esquimaux, and the mention of their being swarthy, with great eyes and broad cheeks, agrees tolerably with this. The statement usually made that the word *skraling* meant 'dwarf' would, if correct, have settled the question; but, unfortunately, there is no real warrant for this etymology. If we may take it that Esquimaux 800 years ago, before they had ever found their way to Greenland, were hunting seals on the coast of Newfoundland, and cariboo in the forest, their life need not have been very unlike what it is now in their Arctic home. Some day, perhaps, the St. Lawrence and Newfoundland shores will be searched for relics of Esquimaux life, as has been done with such success in the Aleutian Islands by Mr. W. H. Dall, though on this side of the continent we can hardly expect to find, as he does, traces of long residence and rise from a still lower condition.

Surveying now the vast series of so-called native, or indigenous, tribes of North and South America, we may admit that the fundamental notion on which American anthropology has to be treated is its relation to Asiatic. This kind of research is, as we know, quite old, but the recent advances of zoology and geology have given it new breadth as well as facility. The theories which account for the wide-lying American tribes, disconnected by language as they are, as all descended from ancestors who came by sea in boats, or across Behring's Straits on the ice, may be felt somewhat to strain the probabilities of migration, and are likely to be remodelled under the information now supplied by geology as to the distribution of animals. It has become a familiar fact that the Equidae, or horse-like animals, belong even more remarkably to the New than to the Old World. There was plainly land-connection between America and Asia, for the horses whose remains are fossil in America to have been genetically connected with the horses re-introduced from Europe. The deer may have passed from the Old World into North America in the Pliocene period; and the opinion is strongly held that the camels came the other way, originating in America and spreading thence into Asia and Africa. The mammoth and the reindeer did not cross over a few thousand years ago by Behring's Straits, for they had been since Pleistocene times spread over the north of what was then one continent. To realise this ancient land-connection of Asia and America, this 'Tertiary-bridge,' to use Professor Marsh's expression, it is instructive to look at Mr. Wallace's chart of the present soundings, observing that an elevation of under 200 feet would make Behring's Straits land, while moderately shallow sea extends southward to about the line of the Aleutian Islands, below which comes the plunge into the ocean depths. If, then, we are to consider America as having received its human population by ordinary migration

of successive tribes along this highway, the importance is obvious of deciding how old man is in America, and how long the continent remained united with Asia, as well as how these two difficult questions are bound up together in their bearing on anthropology. Leaving them to be settled by more competent judges, I will only point out that the theory of northern migration on dry land is after all only a revival of an old opinion which came naturally to Acosta in the sixteenth century, because Behring's Straits were not yet known of, and was held by Buffon in the eighteenth because the zoological conditions compelled him to suppose that Behring's Straits had not always been there. Such a theory, whatever the exact shape it may take, seems wanted for the explanation of that most obvious fact of anthropology, the analogy of the indigenes of America with Asiatics, and more specifically with East and North Asiatics or Mongoloids. This broad race-generalisation has thrust itself on every observer, and each has an instance to mention. My own particular instance is derived from inspection of a party of Botocudo Indians lately exhibited in London, who in proper clothing could have passed without question as Tibetans or Siamese. Now when ethnologists like Dr. Pickering remark on the South Asiatic appearance of Californian tribes, it is open to them to argue that Japanese sailors of junks wrecked on the coast may have founded families there. But the Botocudos are far south and on the other side of the Andes, rude dwellers in the forests of Brazil, and yet they exhibit in an extreme form the Mongoloid character which makes America to the anthropologist part and parcel of Asia. Looked at in this light, there is something suggestive in our still giving to the natives of America the name of Indians; the idea of Columbus that the Caribs were Asiatics was not so absurd after all.

It is perhaps hardly needful now to protest against stretching the generalisation of American uniformity too far, and taking literally Humboldt's saying that he who has seen one American has seen all. The common character of American tribes, from Hudson's Bay to Tierra del Fuego, though more homogeneous than on any other tract of the world of similar extent, admits of wide subvariation. How to distinguish and measure this subvariation is a problem in which anthropology has only reached unsatisfactory results. The broad distinctions which are plainly seen are also those which are readily defined, such as the shape of the nose, curve of the lips, or the projection of the cheek-bones. But all who have compared such American races as Aztecs and Ojibwas must be sensible of extreme difficulty in measuring the proportions of an average facial type. The attempt to give in a single pair of portraits a generalised national type has been tried—for instance, in the St. Petersburg set of models of races at the Exhibition of 1862. But done merely by eye, as they were, they were not so good as well-chosen individual portraits. It would be most desirable that Mr. Francis Galton's method of photographs, superposed so as to combine a group of individuals into one generalised portrait, should have a thorough trial on groups of Iroquois, Aztecs, Caribs, and other tribes who are so far homogeneous in feature as to lend themselves to form an abstract portrait. A set of American races thus 'galtonised' (if I may coin the term) would very likely be so distinctive as to be accepted in anthropology. Craniological measurement has been largely applied in America, but unfortunately it was set wrong for years by the same misleading tendency to find a uniformity not really existent. Those who wish to judge Morton's dictum applied to the Scioto Mound skull, 'the perfect type of Indian conformation, to which the skulls of all the tribes from Cape Horn to Canada more or less approximate,' will find facts to the contrary set forth in chap. 20 of Wilson's 'Prehistoric Man,' and in Quatrefages and Hamy, 'Crania Ethnica.' American crania really differ so much that the hypothesis of successive migrations has been brought into account for the brachycephalic skulls of the mound-builders as compared with living Indians of the district. Among minor race-divisions, as one of the best established may be mentioned that which in this district brings the Algonquin and Iroquois together into the dolichocephalic division; yet even here some divide the Algonquins into two groups by their varying breadth of skull. What may be the interpretation of the cranial evidence as bearing on the American problem it would be premature to say; at present all that can be done is to systematise facts. It is undisputed that the Esquimaux in their complexion, hair, and

feature approximate to the Mongoloid type of North Asia; but when it comes to cranial measurement the Esquimaux with their narrower skulls, whose proportion of breadth to length is only 75 to 80, are far from conforming to the broad-skulled type of North Asia's Mongoloids, whose average index is toward 85. Of this divergence I have no explanation to offer; it illustrates the difficulties which have to be met by a young and imperfect science.

To clear the obscurity of race-problems, as viewed from the anatomical standing point, we naturally seek the help of language. Of late years the anthropology of the Old World has had ever-increasing help from comparative philology. In such investigations, when the philologist seeks a connection between the languages of distant regions, he endeavours to establish both a common stock of words and a common grammatical structure. For instance, this most perfect proof of connection has been lately adduced by Mr. R. H. Codrington in support of the view that the Melanesians and Polynesians, much as they differ in skin and hair, speak languages which belong to a common stock. A more adventurous theory is that of Lenormant and Sayce, that the old Chaldean language is connected with the Tatar group; yet even here there is an *à priori* case based at once on analogies of dictionary and grammar. The comparative method becomes much weaker when few or no words can be claimed as similar, and the whole burden of proof has to be borne by similar modes of word-formation and syntax, as, for example, in the researches of Aymonier and Keane tending to trace the Malay group of languages into connection with the Khmer or Cambodian. Within America the philologist uses with success the strong method of combined dictionary and grammar in order to define his great language-groups, such as the Algonquin extending from Hudson's Bay to Virginia, the Athapascan from Hudson's Bay to New Mexico, both crossing Canada in their vast range. But attempts to trace analogies between lists of words in Asiatic and American languages, though they may have shown some similarities deserving further inquiry, have hardly proved an amount of correspondence beyond what chance coincidence would be capable of producing. Thus when it comes to judging of affinities between the great American language-families, or of any of them with the Asiatic, there is only the weaker method of structure to fall back on. Here the Esquimaux analogy seems to be with North Asiatic languages. It would be defined as agglutinative-suffixing, or, to put the definition practically, an Esquimaux word of however portentous length is treated by looking out in the dictionary the first syllable or two, which will be the root, the rest being a string of modifying suffixes. The Esquimaux thus presents in an exaggerated form the characteristic structure of the vast Ural-Altaic or Turanian group of Asiatic languages. In studying American languages as a whole, the first step is to discard the generalisation of Duponceau as to the American languages from Greenland to Cape Horn being united together, and distinguished from those of other parts of the world, by a common character of polysyntheticism, or combining whole sentences into words. The real divergences of structure in American language-families are brought clearly into view in the two dissertations of Mons. Lucien Adam, which are the most valuable papers of the Congrès International des Americanistes. Making special examination of sixteen languages of North and South America, Adam considers these to belong to a number of independent or irreducible families, as they would have been, he says, 'had there been primitively several human couples.' It may be worth suggesting, however, that the task of the philologist is to exhaust every possibility of discovering connections between languages before falling back on the extreme hypothesis of independent origins. These American language-families have grammatical tendencies in common, which suggest original relationship, and in some of these even correspond with languages of other regions in a way which may indicate connection rather than chance. For instance, the distinction of gender, not by sex as male and female, but by life as animate and inanimate, is familiar in the Algonquin group; in Cree *muskesin* = shoe (mocassin) makes its plural *muskesinā*, while *eskwayū* = woman (squaw) makes its plural *eskwaywuk*. Now, this kind of gender is not peculiar to America, but appears in South-East Asia, as for instance in the Kol languages of Bengal. In that Asiatic district also appears the habit of infixing, that is, of

modifying roots or words by the insertion of a letter or syllable, somewhat as the Dakota language inserts a pronoun within the verb-root itself, or as that remarkable language, the Chocta, alters its verbs by insertions of a still more violent character. Again, the distinction between the inclusive and exclusive pronoun *we*, according as it means 'you and I' or 'th- and I,' &c. (the want of which is perhaps a defect in English), is as familiar to the Maori as to the Ojibwa. Whether the languages of the American tribes be regarded as derived from Asia or as separate developments, their long existence on the American continent seems unquestionable. Had they been the tongues of tribes come within a short time by Behring's Straits, we should have expected them to show clear connection with the tongues of their kindred left behind in Asia, just as the Lapp in Europe, whose ancestors have been separated for thousands of years from the ancestors of the Ostyak or the Turk, still shows in his speech the traces of their remote kinship. The problem how tribes so similar in physical type and culture as the Algonquins, Iroquois, Sioux, and Athapascans, should adjoin one another, yet speaking languages so separate, is only soluble by influences which have had a long period of time to work in.

The comparison of peoples according to their social framework of family and tribe has been assuming more and more importance since it was brought forward by Bachofen, McLennan, and Morgan. One of its broadest distinctions comes into view within the Dominion of Canada. The Esquimaux are patriarchal, the father being head of the family, and descent and inheritance following the male line. But the Indian tribes further south are largely matriarchal, reckoning descent not on the father's but the mother's side. In fact, it was through becoming an adopted Iroquois that Morgan became aware of this system, so foreign to European ideas, and which he supposed at first to be an isolated peculiarity. No less a person than Herodotus had fallen into the same mistake over two thousand years ago, when he thought the Lykians, in taking their names from their mothers, were unlike all other men. It is now, however, an accepted matter of anthropology, that in Herodotus' time nations of the civilised world had passed through this matriarchal stage, as appears from the survivals of it retained in the midst of their newer patriarchal institutions. For instance, among the Arabs to this day, strongly patriarchal as their society is in most respects, there survives that most matriarchal idea that one's nearest relative is not one's father but one's maternal uncle; he is bound to his sister's children by a 'closer and holier tie' than paternity, as Tacitus says of the same conception among the ancient Germans. Obviously great interest attaches to any accounts of existing tribes which preserve for us the explanation of such social phenomena. Some of the most instructive of these are too new to have yet found their way into our treatises on early institutions; they are accounts lately published by Dutch officials among the non-Islamised clans of Sumatra and Java. G. A. Wilken, 'Over de Verwantschap en het Huwelijks en Erfrecht bij de Volken van den Indischen Archipel,' summarises the account put on record by Van Hasselt as to the life of the Malays of the Padang Highlands of Mid-Sumatra, who are known to represent an early Malay population. Among these people not only kinship, but habitation follows absolutely the female line, so that the numerous dwellers in one great house are all connected by descent from one mother, one generation above another, children, then mothers and maternal uncles and aunts, then grandmothers and maternal great-uncles and great-aunts, &c. There are in each district several *suku* or mother-clans, between persons born in which marriage is forbidden. Here then appear the two well-known rules of female descent and exogamy, but now we come into view of the remarkable state of society, that though marriage exists, it does not form the household. The woman remains in the maternal house she was born in, and the man remains in his; his position is that of an authorised visitor; if he will, he may come over and help her in the rice-field, but he need not; over the children he has no control whatever, and were he to presume to order or chastise them, their natural guardian, the mother's brother (*manak*), would resent it as an affront. The law of female descent and its connected rules have as yet been mostly studied among the native Americans and Australians, where they have evidently under-

gone much modification. Thus 150 years ago Father Lafitau mentions that the husband and wife, while in fact moving into one another's hut, or setting up a new one, still kept up the matriarchal idea by the fiction that neither he nor she quitted their own maternal house. But in the Sumatra district just referred to, the matriarchal system may still be seen in actual existence, in a most extreme and probably early form. If, led by such new evidence, we look at the map of the world from this point of view, there discloses itself a remarkable fact of social geography. It is seen that matriarchal exogamous society, that is, society with female descent and prohibition of marriage within the clan, does not crop up here and there, as if it were an isolated invention, but characterises a whole vast region of the world. If the Malay district be taken as a centre, the system of intermarrying mother-clans may be followed westward into Asia, among the Garos and other hill tribes of India. Eastward from the Indian Archipelago it pervades the Melanesian islands, with remains in Polynesia; it prevails widely in Australia, and stretches north and south in the Americas. This immense district represents an area of lower culture, where matriarchalism has only in places yielded to the patriarchal system, which develops with the idea of property, and which, in the other and more civilised half of the globe, has carried all before it, only showing in isolated spots and by relics of custom the former existence of matriarchal society. Such a geographical view of the matriarchal region makes intelligible facts which while not thus seen together were most puzzling. When years ago Sir George Grey studied the customs of the Australians, it seemed to him a singular coincidence that a man whose maternal family name was Kangaroo might not marry a woman of the same name, just as if he had been a Huron of the Bear or Turtle totem, prohibited accordingly from taking a wife of the same. But when we have the facts more completely before us, Australia and Canada are seen to be only the far ends of a world-district pervaded by these ideas, and the problem becomes such a one as naturalists are quite accustomed to. Though Montreal and Melbourne are far apart, it may be that in prehistoric times they were both connected with Asia by lines of social institution as real as those which in modern times connect them through Europe. Though it is only of late that this problem of ancient society has received the attention it deserves, it is but fair to mention how long ago its scientific study began in the part of the world where we are assembled. Father Lafitau, whose '*Mœurs des Sauvages Américains*' was published in 1724, carefully describes among the Iroquois and Hurons the system of kinship to which Morgan has since given the name of 'classificatory,' where the mother's sisters are reckoned as mothers, and so on. It is remarkable to find this acute Jesuit missionary already pointing out how the idea of the husband being an intruder in his wife's house bears on the pretence of surreptitiousness in marriage among the Spartans. He even rationally interprets in this way a custom which to us seems fantastic, but which is a most serious observance among rude tribes widely spread over the world. A usual form of this custom is that the husband and his parents-in-law, especially his mother-in-law, consider it shameful to speak to or look at one another, hiding themselves or getting out of the way, at least in pretence, if they meet. The comic absurdity of these scenes, such as Tanner describes among the Assinebois, disappears if they are to be understood as a legal ceremony, implying that the husband has nothing to do with his wife's family. To this part of the world also belongs a word which has been more effective than any treatise in bringing the matriarchal system of society into notice. This is the term *totem*, introduced by Schoolcraft to describe the mother-clans of the Algonquins, named 'Wolf,' 'Bear,' &c. Unluckily the word is wrongly made. Professor Max Müller has lately called attention to the remark of the Canadian philologist Father Cuoq (N. O. Ancien Missionnaire), that the word is properly *ote*, meaning 'family mark,' possessive *otem*, and with the personal pronoun *nind otem*, 'my family mark,' *kit otem*, 'thy family mark.' It may be seen in Schoolcraft's own sketch of Algonquin grammar how he erroneously made from these a word *totem*, and the question ought perhaps to be gone into in this section, whether the term had best be kept up or amended, or a new term substituted. It is quite worth while to discuss the name, considering what an important question of anthropology is involved in the

institution it expresses. In this region there were found Iroquois, Algonquins, Dakotas, separate in language, and yet whose social life was regulated by the matriarchal totem structure. May it not be inferred from such a state of things, that social institutions form a deeper-lying element in man than language or even physical race-type? This is a problem which presents itself for serious discussion when the evidence can be brought more completely together.

It is obvious that in this speculation, as in other problems now presenting themselves in anthropology, the question of the antiquity of man lies at the basis. Of late no great progress has been made toward fixing a scale of calculation of the human period, but the arguments as to time required for alterations in valley-levels, changes of fauna, evolution of races, languages, and culture, seem to converge more conclusively than ever toward a human period short indeed as a fraction of geological time, but long as compared with historical or chronological time. While, however, it is felt that length of time need not debar the anthropologist from hypotheses of development and migration, there is more caution as to assumptions of millions of years where no arithmetical basis exists, and less tendency to treat everything prehistoric as necessarily of extreme antiquity, such as, for instance, the Swiss lake-dwellings and the Central American temples. There are certain problems of American anthropology which are not the less interesting for involving no considerations of high antiquity; indeed they have the advantage of being within the check of history, though not themselves belonging to it.

Humboldt's argument as to traces of Asiatic influence in Mexico is one of these. The four ages in the Aztec picture-writings, ending with catastrophes of the four elements, earth, fire, air, water, compared by him with the same scheme among the Banyans of Surat, is a strong piece of evidence which would become yet stronger if the Hindu book could be found from which the account is declared to have been taken. Not less cogent is his comparison of the zodiacs or calendar-cycles of Mexico and Central America with those of Eastern Asia, such as that by which the Japanese reckon the Sixty-year cycle by combining the elements seriatim with the twelve animals, Mouse, Bull, Tiger, Hare, &c.; the present year is, I suppose, the second water-ape year, and the time of day is the goat-hour. Humboldt's case may be reinforced by the consideration of the magical employment of these zodiacs in the Old and New World. The description of a Mexican astrologer, sent for to make the arrangements for a marriage by comparing the zodiac animals of the birthdays of bride and bridegroom, might have been written almost exactly of the modern Kalmuks; and in fact it seems connected in origin with similar rules in our own books of astrology. Magic is of great value in thus tracing communication, direct or indirect, between distant nations. The power of lasting and travelling which it possesses may be instanced by the rock-pictures from the sacred Roches Percées of Manitoba, sketched by Dr. Dawson, and published in his father's volume on 'Fossil Man,' with the proper caution that the pictures, or some of them, may be modern. Besides the rude pictures of deer and Indians and their huts, one sees with surprise a pentagram more neatly drawn than that defective one which let Mephistopheles pass Faust's threshold, though it kept the demon in when he had got there. Whether the Indians of Manitoba learnt the magic figure from the white man, or whether the white man did it himself in jest, it proves a line of intercourse stretching back 2,500 years to the time when it was first drawn as a geometrical diagram of the school of Pythagoras. To return to Humboldt's argument, if there was communication from Asia to Mexico before the Spanish Conquest, it ought to have brought other things, and no things travel more easily than games. I noticed some years ago that the Aztecs are described by the old Spanish writers as playing a game called *patolli*, where they moved stones on the squares of a cross-shaped mat, according to the throws of beans marked on one side. The description minutely corresponds with the Hindu game of *pachisi*, played in like manner with cowries instead of beans; this game, which is an early variety of backgammon, is well known in Asia, whence it seems to have found its way into America. From Mexico it passed into Sonora and Zacatecas, much broken down but retaining its name, and it may be traced still further into the game of plum-

stones among the Iroquois and other tribes. Now, if the probability be granted that these various American notions came from Asia, their importation would not have to do with any remotely ancient connection between the two continents. The Hindu element-catastrophes, the East Asiatic zodiac-calendars, the game of backgammon, seem none of them extremely old, and it may not be a thousand years since they reached America. These are cases in which we may reasonably suppose communication by seafarers, perhaps even in some of those junks which are brought across so often by the ocean-current and wrecked on the Californian coast. In connection with ideas borrowed from Asia there arises the question, How did the Mexicans and Peruvians become possessed of bronze? Seeing how imperfectly it had established itself, not even dispossessing the stone implements, I have long believed it to be an Asiatic importation of no great antiquity, and it is with great satisfaction that I find such an authority on prehistoric archæology as Professor Worsaae comparing the bronze implements in China and Japan with those of Mexico and Peru, and declaring emphatically his opinion that bronze was a modern novelty introduced into America. While these items of Asiatic culture in America are so localised as to agree best with the hypothesis of communication far south across the Pacific, there are others which agree best with the routes far north. A remarkable piece of evidence pointed out by General Pitt-Rivers is the geographical distribution of the Tatar or composite bow, which in construction is unlike the long-bow, being made of several pieces spliced together, and which is bent backwards to string it. This distinctly Asiatic form may be followed across the region of Behring's Straits into America among the Esquimaux and northern Indians, so that it can hardly be doubted that its coming into America was by a northern line of migration. This important movement in culture may have taken place in remotely ancient times.

A brief account may now be given of the present state of information as to movements of civilisation within the double continent of America. Conspicuous among these is what may be called the northward drift of civilisation, which comes well into view in the evidence of botanists as to cultivated plants. Maize, though allied to, and probably genetically connected with an Old World graminaceous family, is distinctly American, and is believed by De Candolle to have been brought into cultivation in Peru, whence it was carried from tribe to tribe up into the North. To see how closely the two continents are connected in civilisation, one need only look at the distribution on both of maize, tobacco, and cacao. It is admitted as probable that from the Mexican and Central American region agriculture travelled northward, and became established among the native tribes. This direction may be clearly traced in a sketch of their agriculture, such as is given in Mr. Lucien Carr's paper on the 'Mounds of the Mississippi Valley.' The same staple cultivation passed on from place to place, maize, haricots, pumpkins, for food, and tobacco for luxury. Agriculture among the Indians of the great lakes is plainly seen to have been an imported craft by the way in which it had spread to some tribes but not to others. The distribution of the potter's art is similarly partial, some tribes making good earthen vessels, while others still boiled meat in its own skin with hot stones, so that it may well be supposed that the arts of growing corn and making the earthen pot to boil the hominy came together from the more civilised nations of the south. With this northward drift of civilisation other facts harmonise. The researches of Buschmann, published by the Berlin Academy, show how Aztec words have become embedded in the languages of Sonora, New Mexico, and up the western side of the continent, which could not have spread there without Mexican intercourse extending far north-west. This indeed has left many traces still discernible in the industrial and decorative arts of the Pueblo Indians. Along the courses of this northward drift of culture remain two remarkable series of structures probably connected with it. The Casas Grandes, the fortified communal barracks (if I may so call them) which provided house-room for hundreds of families, excited the astonishment of the early Spanish explorers, but are only beginning to be thoroughly described now that such districts as the Taos Valley have come within reach by the railroads across to the Pacific. The accounts of these village-forts

and their inhabitants, drawn up by Major J. W. Powell, of the Bureau of Ethnology, and Mr. Putnam, of the Peabody Museum, disclose the old communistic society surviving in modern times, in instructive comment on the philosophers who are seeking to return to it. It would be premature in the present state of information to decide whether Mr. J. L. Morgan, in his work on the 'Houses and House-life of the American Aborigines,' has realised the conditions of the problem. It is plausible to suppose with him a connection between the communal dwellings of the American Indians, such as the Iroquois long-house with its many family hearths, with the more solid buildings inhabited on a similar social principle by tribes such as the Zuñis of New Mexico. Morgan was so much a man of genius, that his speculations, even when at variance with the general view of the facts, are always suggestive. This is the case with his attempt to account for the organisation of the Aztec state as a highly-developed Indian tribal community, and even to explain the many-roomed stone palaces, as they are called, of Central America, as being huge communal dwellings like those of the Pueblo Indians. I will not go further into the subject here, hoping that it may be debated in the Section by those far better acquainted with the evidence. I need not, for the same reason, do much more than mention the mound-builders, nor enter largely on the literature which has grown up about them since the publication of the works of Squier and Davis. Now that the idea of their being a separate race of high antiquity has died out, and their earthworks with the implements and ornaments found among them are brought into comparison with those of other tribes of the country, they have settled into representatives of one of the most notable stages of the northward drift of culture among the indigenes of America.

Concluding this long survey, we come to the practical question how the stimulus of the present meeting may be used to promote anthropology in Canada. It is not as if the work were new here, indeed some of its best evidence has been gathered on this ground from the days of the French missionaries of the seventeenth century. Naturally, in this part of the country, the rudimentary stages of thought then to be found among the Indians have mostly disappeared. For instance, in the native conceptions of souls and spirits the crudest animistic ideas were in full force. Dreams were looked on as real events, and the phantom of a living or a dead man seen in a dream was considered to be that man's personality and life, that is, his soul. Beyond this, by logical extension of the same train of thought, every animal or plant or object, inasmuch as its phantom could be seen away from its material body in dreams or visions, was held to have a soul. No one ever found this primitive conception in more perfect form than Father Lallemant, who describes in the 'Relations des Jesuites' (1626), how, when the Indians buried kettles and furs with the dead, the bodies of these things remained, but the souls of them went to the dead men who used them. So Father Le Jeune describes the souls, not only of men and animals, but of hatchets and kettles, crossing the water to the Great Village out in the sunset. The genuineness of this idea of object-souls is proved by other independent explorers finding them elsewhere in the world. Two of the accounts most closely tallying with the American, come from the Rev. Dr. Mason, in Birma, and the Rev. J. Williams, in Fiji. That is to say, the most characteristic development of early animism belongs to the same region as the most characteristic development of matriarchal society, extending from south-east Asia into Melanesia and Polynesia, and North and South America. Everyone who studies the history of human thought must see the value of such facts as these, and the importance of gathering them up among the rude tribes who preserve them, before they pass into a new stage of culture. All who have read Mr. Hale's studies on the Hiawatha legend and other Indian folklore, must admit that the native traditions, with their fragments of real history, and their incidental touches of native religion, ought never to be left to die out unrecorded. In the Dominion, especially in its outlying districts toward the Arctic region and over the Rocky Mountains, there is an enormous mass of anthropological material of high value to be collected, but this collection must be done within the next generation, or there will be little left to collect. The small group of Canadian anthropologists, able and energetic as they are, can manage and control this work, but cannot do it all themselves. What is wanted is a Canadian

Anthropological Society with a stronger organisation than yet exists, able to arrange explorations in promising districts, to circulate questions and requirements among the proper people in the proper places, and to lay a new burden on the shoulders of the already hard-worked professional men, and other educated settlers through the newly-opened country, by making them investigators of local anthropology. The Canadian Government, which has well deserved the high reputation it holds throughout the world for wisdom and liberality in dealing with the native tribes, may reasonably be asked to support more thorough exploration, and collection and publication of the results, in friendly rivalry with the United States Government, which has in this way fully acknowledged the obligation of making the colonisation of new lands not only promotive of national wealth, but serviceable to science. It is not for me to do more here, and now, than to suggest practical steps toward this end. My laying before the Section so diffusive a sketch of the problems of anthropology as they present themselves in the Dominion, has been with the underlying intention of calling public notice to the important scientific work now standing ready to Canadian hands; the undertaking of which it is to be hoped will be one outcome of this visit of the British Association to Montreal.

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